MEMO

TO: Regional Comprehensive Plan Task Force

FROM: Brett Sears, AICP, Associate Regional Planner, Environmental Planning, (213) 236-1810, sears@scag.ca.gov

DATE: November 22, 2004

SUBJECT: Energy Chapter Outline and Comments from Energy Experts

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RECOMMENDED ACTION:

Provide input to staff regarding energy issues to be addressed in the Energy chapter of the Regional Comprehensive Plan and report progress to the Energy and Environment Committee.

SUMMARY:

Over the next series of Task Force meetings, staff will be presenting the currently adopted policies of each of the chapters of the Regional Comprehensive Plan (RCP) for Task Force input. Discussion will focus on the existing SCAG policies regarding the subject areas and on the mandatory, advisory, and best practices that stakeholders can implement. Staff is presenting the draft outline for the Energy chapter, including input from energy experts, for Task Force discussion. Staff asks the Task Force to review the policies in place and to create an action plan for energy issues and report progress to the Energy and Environment Committee.

BACKGROUND:

Per Regional Council direction, SCAG staff is preparing a Regional Comprehensive Plan (RCP) to implement and promote policy objectives of the Regional Council, fulfill the new organizational Strategic Plan, and serve to assist outside parties in working within regional plans. One chapter of the RCP is the Energy chapter.

Over the next several Task Force meetings, SCAG staff will present the currently adopted policies regarding each of the chapters of the RCP. The Energy chapter describes the current conditions and objectives of regional energy issues. However, the major focus of this, and the other RCP chapters, is on the specific actions for specific stakeholders. The actions are built from the SCAG adopted policies and include mandatory actions, as committed in the 2004 Regional Transportation Plan Program Environmental Impact Report, and advisory and best practices recommendations designed for stakeholder implementation. These advisory and best practices include items from the original Regional Comprehensive Plan and Guide, the Compass Growth Vision, the 2004 Regional Transportation Plan, Regional Council resolutions, as well as staff research into other energy best practices.

MEMO

SCAG staff completed an update of the original 1996 Energy chapter in 2002. Last fiscal year, SCAG staff prepared a report describing regional energy efficiency efforts and renewable energy efforts as they related to buildings. The Regional Council in September 2004 directed staff to incorporate the work on building energy efficiency into the Energy chapter of the RCP.

Staff has contacted a list of stakeholders to solicit input in developing the outline for the Energy chapter. Staff contacted those who had participated in the 2002 Energy chapter update as well as those involved in a statewide local government staff energy group. Experts who responded with feedback were interested in expanding the sections on renewable energy and distributed generation, addressing energy sources such as biofuels and waste to energy, addressing demand side management programs, and including information on combined heat and power and community choice aggregation. One expert expressed opposition to inclusion of building energy efficiency standards. All of the feedback is included in an attachment to this memo.

ATTACHMENTS:

- Draft Energy Chapter Outline
- Comments from Experts on Draft Energy Chapter Outline

FISCAL IMPACT:

Preparation of the Regional Comprehensive Plan is included in the SCAG Overall Work Program for Fiscal year 2004-2005 (WBS 05-035).

Southern California Association of Governments
Regional Comprehensive Plan
Energy Chapter
Outline

Introduction
Background
- **Current Conditions**
  - Energy Sources
    - Electricity
    - Heat
    - Natural Gas
    - Petroleum
    - Hydrogen
    - Biofuels
    - Waste to Energy, Synthetic Gas (syngas) and Fuels
    - Qualifying facilities
    - Distributed generation
    - Recycled Energy (Combined Heat & Power existing installations)
- **Building Energy Efficiency**
  - Leadership in Environmental and Energy Design (LEED)
  - Energy Star Homes & Industries
  - California Building Energy Efficiency Standards
    - City of Santa Monica
    - City of Irvine
  - Community Energy Efficiency Program
  - Collaborative for High Performance Schools
  - California Governor's Sustainable Building Goal
  - Costs and Benefits of Building Energy Efficiency Standards
    - Building Level Savings
    - City- and State-Level Savings
    - Potential Savings in the SCAG Region
  - Locally Adopted Energy Standards
  - EPA's CHP Partnership
  - Pacific Southwest Combined Heat & Power Initiative (see www.pswchpi.org) and Pacific Regional CHP Application Center (www.chpcenterpr.org)
- **Transportation Energy**
  - Travel Fuel Consumption
- **Demand Side Management**
  - Demand Side Management Programs
  - Energy Efficiency Standards
  - Distributed Generation Systems
- **Community Choice Aggregation**
- **Future Energy Demand**
  - Electricity

Thermal energy
Natural Gas
Hydrogen
Alternative Fuels (syngas, biofuels)
Travel Fuel Consumption

Energy Use Implications

SCAG Policies Regarding Energy

- Encourage local jurisdictions to purchase alternative fuel vehicles, support the installation of refueling infrastructure, planning, education, and outreach to promote alternative fuel vehicles, support the development of legislation, programs, funding, and technology which addresses clean fleets and alternative fuels (RC Resolution).
- Encourage state and federal lawmakers and regulatory agencies to pursue the design of programs to either require or incentivize the expanded availability and use of alternative-fuel vehicles to reduce the impact of shifts in petroleum fuel supply and price (RC Resolution).
- Oppose current power plant projects at the US-Mexico border, until California Best Available Control Technologies are installed and maintained on all power plants along the border (RC Resolution).
- Support only the use of the best available technology including monitoring, air, and water impacts for locating any nuclear waste facility (RC Resolution).
- Encourage investment in transit (2004 Growth Vision).
- Develop strategies to accommodate growth that use resources efficiently, eliminate pollution and significantly reduce waste (2004 Growth Vision).
- Encourage patterns of urban development and land use, which reduce costs on infrastructure construction and make better use of existing facilities (1996 Regional Comprehensive Plan and Guide (RCPG)).
- The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies (1996 RCPG).
- In areas with large seasonal population fluctuations, such as resort areas, forecast permanent populations. However, appropriate infrastructure systems should be sized to serve high season population totals (1996 RCPG).
- The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review (1996 RCPG).

Measurement/Indicators

- Per capita electricity consumption
- Per capita travel fuel consumption
- Energy imports
  - Electricity
  - Travel fuel
- Percentage share of renewable energy in energy mix
- LEED-certified buildings
- Automobile fuel efficiency
- Percentage share of alternative fuel vehicles/hybrid vehicles

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Analysis / Responsiveness to Growth Vision Principles

Mobility

- Coordinating land use and transportation would lead to lower per capita transportation energy consumption
- Better jobs/housing balance would lead to lower per capita transportation energy consumption
- Promoting a variety of travel choices would include travel by alternative fuel-powered vehicles

Livability

- Walkable communities would lead to lower per capita transportation energy consumption
- Reduced transportation energy consumption would lead to less air pollution

Prosperity

- A regional energy policy would address environmental justice concerns

Sustainability

- Preserving rural, agricultural, and environmentally sensitive areas would require a regional energy policy and renewable energy sources
- Developing strategies to accommodate growth that use resources more efficiently would lead to expanding the usage of renewable energy sources
- Utilizing "green" develop techniques would entail energy efficient transportation and buildings

Action

Mandatory Actions

- Work with local jurisdictions and energy providers, through its Energy and Environment Committee and other means, to encourage regional-scale planning for improved energy management. Future impacts to energy shall be minimized through cooperative planning and information sharing within the SCAG region. This cooperative planning shall occur during the update of the Energy chapter of SCAG's Regional Comprehensive Plan and Guide (2004 Regional Transportation Plan (RTP) Program Environmental Impact Report (PEIR)).
- Encourage state and federal lawmakers and regulatory agencies to pursue the design of programs to either require or incentivize the expanded availability and use of alternative-fuel vehicles to reduce the impact of shifts in petroleum fuel supply and price (2004 RTP PEIR).

Advisory Actions

Buildings (1996 RCPG)

- Supplemental Building Measures
- Public Awareness Campaigns
- Home Energy Rating System
- Existing Building (Retrofit) Ordinance
- Enhanced Title 24 Enforcement

- LEED-certified buildings
- Energy efficient mortgage programs

Land Use and Mobility (1996 RCPG)

- Vehicle Efficiency Standards
- Alternative Fuels Incentives
- Increased Vehicle Occupancy
- Telecommuting
- Pedestrian and Bicycle Emphasis
- Transit and Land Use Emphasis
- Congestion Pricing
- Parking Pricing
- Energy Efficient Landscaping and Site Design

Infrastructure (1996 RCPG)

- Reduction of Water Consumption
- Increased Composting
- Improved Efficiency of the Recycling Process
- Variable Rates for Garbage Collection

Best Practices (2002 Energy Chapter and staff research)

- Develop data on the implications of energy usage, especially on emissions of toxic air contaminants and greenhouse gases and possibly for other environmental issues, such as water quality.
- Support state and local efforts to better coordinate demand side management programs and the development of overall energy policies and goals.
- Develop regional energy performance indicators and goals for those indicators.
- Investigate the potential benefits to the region from encouraging distributed energy resources and combined heat, cooling, and power.
- Conduct energy demand modeling based on population, housing, and employment forecasts.
- Increase the total electricity supply from renewable resources, especially from resources located within the region.
- Promote development regulations and design standards to maximize energy efficiency and minimize potential health risks.
- Conduct environmental justice analysis before locating energy facilities, such as power plants and/or transmission lines, in order to ensure that lower income and minority communities are not disproportionately negatively affected.
- Develop renewable energy resources to help meet the region's energy needs in an environmentally sensitive manner.
- Replace or upgrade and modernize existing energy production facilities.
- Identify and implement energy conservation, efficiency, and incentive programs, such as rebates.

References

Expert Input on the Draft Energy Chapter Outline

SCAG staff contacted a list of stakeholders to solicit input in developing the outline for the Energy chapter. Staff contacted those who had participated in the 2002 Energy chapter update as well as those involved in a statewide local government staff energy group. This document contains the contact information and comments from the respondents.

From:

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I want to make certain that parallel energy-related efforts come to your attention and that you have an "open door" to those activities and resources.

I am an appointee to the LA County Integrated Waste Management Task Force, Alternative Conversion Technologies. The program is a concerted effort that will site a facility in Southern California to convert post-recycling waste residuals into energy, green fuels and chemical products. This is a high-priority program really in its infancy, but gaining momentum daily. We are just now developing strategic plans and public outreach policies, and in that context recently brought SCAG up as a logical core stakeholder group. Paul Alva heads the LA County DPW task force subcommittee. Alex Helou manages a similar yet discrete effort, for the City of LA's efforts. I have distributed your RCP and request for comments to both teams today.

I am also an Executive Board member of the United States Combined Heat and Power Association (See www.uschpa.org), and responded through Nancy Pfeffer to the 2002 energy plan as we began to consider how to integrate on-site energy and combined heat and power aspects with the overall energy planning for our region. As you might expect from my Task Force involvement, much of my work in USCHPA focuses on alternative fuels and conversion of waste to products, including of course generation of renewable energy.

I would encourage you to go beyond the comments, to contact the City and County staff, and work with us to bring our respective efforts into a position of strong mutual support.

Please see attached draft Outline with my markup comments. I've advised our USCHPA Executive Director John Jimison of your Plan update. Our association would like to assist SCAG in developing the RCP to incorporate proven combined heat and power (CHP) aspects for onsite generation and improved energy efficiency. Please consider

myself as primary contact for now. As I attend LA County Task Force meetings monthly, I can arrange to meet with you and other SCAG members if and when needed. When appropriate, our association can pull a team together and dig in to help with the RCP revision, so let us know your timing and any specific concerns you may have.

Thanks for the opportunity to help build an energy-strong region.

Comments to outline:

Under Energy Sources, add heat, biofuels, waste to energy, synthetic gas (syngas) and fuels, and recycled Energy (Combined Heat & Power existing installations).

Under Building Energy Efficiency, add EPA's CHP Partnership, Pacific Southwest Combined Heat & Power Initiative (see www.pswchpi.org), and Pacific Regional CHP Application Center (www.chpcenterpr.org).

Under Future Energy Demand, add thermal energy and alternative fuels (syngas, biofuels).

From:
Cheryl Collart
Ventura County Regional Energy Alliance
Cheryl.Collart@mail.co.ventura.ca.us

As a joint powers agency/ regional energy office, the Ventura County Regional Energy Alliance would appreciate seeing the subject of renewable energy resources addressed. For example, the opportunity to use renewable/solar within/on buildings that support public transportation would elevate the entire energy discussion. Plans that "combined heat/power" and "co-generation" would lend a broader perspective and encourage creative approaches throughout the region. Please consider policies to integrate efficient energy use. These may be a bit more costly at the time of construction, but in the long run, more cost and energy savings accrue to public. Your report could provide template policies for the region and adding applications in each chapter/section that include renewables would be a suggestion for you to consider.

From:
Jerry Lahr
Association of Bay Area Governments
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You should have some discussion of Community Choice Aggregation (CCA).

From:
Todd Priest
Director of Government Affairs
Building Industry Association of Southern California

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Our industry will be strongly opposed to the inclusion of any recommendation regarding local energy ordinances.

From:
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Thank you for the opportunity to provide comments on SCAG's outline for the revised Energy Chapter in the Regional Comprehensive Plan (RCP). We offer the following preliminary comments:

Demand Side Management Programs (DSM). While a number of building efficiency programs and initiatives are listed the background section, it is not clear from the outline where other Demand-side Management (DSM) programs such as demand management will be identified, discussed and promoted. Also, the application of distributed generation systems has expanded considerably in the SCAG region since the 2002 RCP (see Distributed Generation discussion below). One approach would be to address demand management programs, energy efficiency standards, and distributed generation systems as topics in a separate DSM section.

Distributed Generation (DG). The District strongly supports the concept of distributed generation powered clean technologies such as hydrogen. We have funded projects in the SCAG region that rely on portable microturbines and fuel cell/microturbine systems that provide clean power at much higher efficiencies than conventional systems. The topic of distributed generation is currently listed as an energy source in the Background section. We encourage SCAG staff to go beyond the 2002 RCP and revise the Energy Chapter to describe: (1) DG systems and their applications that are operating in the SCAG region; (2) availability of clean DG technologies and funding sources; and (3) the current and projected environmental benefits that DG systems provide.

Efficiency Options Assessment (EOA). The 1996 RCP Energy Chapter focused on 18 local efficiency measures that were carried forward, updated and referenced as an appendix in the 2002 RCP Energy Chapter. This succinct assessment of potential energy efficiency options overlaps and complements many AQMP programs (e.g. increase vehicle occupancy, alternative fuels incentives, telecommuting, etc.). The EOA is not specifically identified in the current outline. We suggest that the EOA, or a similar analysis, and a comprehensive list of demand side programs be included in a separate DSM section.

Hydrogen Energy Source. The scope of the Energy Chapter seems to be essentially unchanged since the RCP was first adopted in 1996 with three energy sources (electricity, natural gas and petroleum transportation fuels). The growing demand for energy has allowed hydrogen fuel cells to become a viable, expanding technology that has substantial implications on the transportation network and power generation facilities. Hydrogen technologies can effectively replace traditional petroleum fuels in both vehicles and stationary distributed energy systems. Just recently, AQMD constructed the first of 13 hydrogen-fueling stations, which are the first phase of a fueling infrastructure, that will power hydrogen-powered vehicles throughout the SCAG region. Also, a number of hydrogen fuel cell distributed generation systems are currently in operation that reduce the demand on the power grid. We would like to see a forward-looking discussion of the applicability and potential of hydrogen as an energy source to reduce regional energy demand in the SCAG region and improve the environment.

AQMD Data Sources: There are three AQMD documents that may provide useful information as you begin the RCP update.

- 2003 Air Quality Management Plan (AQMP)
- Guidance Document For The Development of Air Quality Elements in General Plans
- MATES II